

# **EET 270/271**

## **2012-2013**

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### **ELECTRICAL MOTOR CONTROLS I**

#### **I. COURSE DESCRIPTION**

THIS COURSE IS DESIGNED TO TEACH A PERSON WITH BASIC ELECTRICAL KNOWLEDGE HOW INDUSTRIAL MACHINES ARE CONTROLLED STARTING WITH BASIC CONCEPTS SUCH AS 2 AND 3 WIRE CONTROL SYSTEMS ADVANCING TO INCREASINGLY COMPLEX SYSTEMS INCLUDING THE APPLICATIONS AND LIMITATIONS OF PROGRAMMABLE LOGIC CONTROLLERS (PLCS). IN ADDITION, AN EMPHASIS ON THE APPLICATIONS OF THIS TECHNOLOGY, THE LANGUAGE OF HOW TO READ AND UNDERSTAND LADDER DIAGRAMS AND WIRING DIAGRAMS WILL BE TAUGHT.

#### **II. CO-REQUISITE**

EET 271 ELECTRICAL MOTOR CONTROLS LAB

#### **III. TEXTBOOK**

ELECTRICAL MOTOR CONTROLS I: AUTOMATED INDUSTRIAL SYSTEMS THIRD EDITION BY GARY ROCKIS AND GLEN MAZUR

#### **IV. REQUIRED MATERIALS**

PENCIL AND PAPER. IT WOULD BE TO THE STUDENTS BENEFIT TO HAVE A NOTEBOOK OR FOLDER FOR NOTE TAKING AND INFORMATION STORAGE.

**V. CREDIT HOURS**  
ONE (1) CREDIT HOUR

**VI. COURSE OBJECTIVE**

UPON COMPLETION, STUDENT WILL HAVE DEMONSTRATED AN UNDERSTANDING OF SIMPLE MOTOR CONTROLS AND PROGRAMMABLE CONTROLLERS, AS WELL AS A PROFICIENCY IN THE USE OF ELECTRICAL LABORATORY EQUIPMENT.

**VII. COURSE OUTLINE**

<b>DAY</b>	<b>SUBJECT</b>
1-10:	SAFETY AND TOOL USE REVIEW.
11-12:	INSTRUMENTS/SYMBOLS/LINE DIAGRAMS
13-15:	LOGIC/LINE DIAGRAMS
16-18:	MANUAL CONTACTORS/STARTERS & SOLENOIDS/RELAYS
19-22:	MAGNETIC CONTACTORS AND STARTERS
23-26:	TIME DELAY & LOGIC
27-30:	CONTROL DEVICES
30-32:	REVERSING CIRCUITS

32-35: SOLID STATE DEVICES  
36-40: SOLID STATE RELAYS  
40-42: PHOTO CONTROL & PROXIMITY  
43-48: INDUSTRIAL SENSORS AND  
CONTROLLERS  
49-60: PROGRAMMABLE CONTROLS

### **SCORING RUBRIC**

40% OF FINAL GRADE BASED UPON DAILY PERFORMANCE AND ATTITUDE

20% OF FINAL GRADE BASED UPON TEST SCORES

20% OF FINAL GRADE BASED UPON COMPLETED TASK SCORES

10% OF FINAL GRADE BASED UPON DAILY ASSIGNMENTS

10% OF FINAL GRADE BASED UPON QUIZ SCORES

### **MAKE UP POLICY**

STUDENTS WILL BE ALLOWED TO MAKE UP MISSED ASSIGNMENTS AND TEST AT A TIME CONVENIENT TO TEACHER AND LESSON SCHEDULE. STUDENTS WILL NOT BE ABLE TO MAKE UP MISSED TIME AND TASK PRACTICE DURING CLASS TIME DUE TO THE FACT IT WILL TAKE AWAY FROM OTHER LESSONS/TASKS. TEACHER WILL WORK WITH STUDENTS TO MAKE UP MISSED TIME AT STUDENT'S REQUEST. THIS WILL BE SOLELY DEPENDANT UPON STUDENTS BEHAVIOR, ATTITUDE, AND DAILY MOTIVATION.